

REMARKS

Claims 1-13 have been examined in the present application. Claims 1-13 have been rejected under 35 U.S.C. § 103(a) over Yamada (U.S. Pat. No. 6,008,440) in view of European Patent (EP 0711655 A2, hereinafter "EP 655") and further in view of Coe. Claim 1 has been amended to more fully claim the invention. No new matter has been added by this amendment. Reconsideration of the present application in light of the above amendments and below remarks is respectfully requested.

On page 3 of the Office Action, claims 1-13 have been rejected under § 103 over Yamada in view of EP 655 and Coe. Applicants respectfully traverse this rejection.

Amended claim 1 consists of a dyeing step, a laminating step, a thermal pressing step and a bonding step. The Office Action on page 3 cites col. 2 lines 1-14, col. 3 lines 19-54, col. 6 lines 1-11 of Yamada in rejecting claim 1. However, the cited portions do not recite all the steps as recited in amended claim 1. None of the references disclose a dyeing step in which a plurality of wooden plate units are dyed before coating resin. In the presently claimed invention the wooden plate units are dyed before they are stacked and pressed to form the laminated body. Because dyeing is carried out on thin wooden plate units before resin is applied, the wooden plate units are uniformly dyed. As a result, the laminated bodies and the wood elements, which are formed by laminating the dyed wooden plate units, can have substantially uniform color entirely in the thickness direction and are suitable to use for musical instruments. None of these features are taught by the prior art.

Further, the second step of claim 1 recites a "a laminating step in which a resin is coated onto or is impregnated into a plurality of dyed wooden plate units, fiber directions of the dyed wooden plate units are uniformly aligned, and the dyed wooden plate units are stacked and are subjected to thermal pressing so as to be bonded together and produce laminated bodies." The cited portion of Yamada only discloses a laminated structure but does not disclose the step of laminating the dyed wooden plate units. The Office Action on Page 4 maintains that the uniform alignment is

of no patentable consequence but fails to cite to any case law or relevant sections of the MPEP where this limitation of the claims of the present application can be simply ignored.

The wood elements of independent claims 1,5, 10, and 12 are made by bonding at least two laminated bodies, or second laminated bodies (in claim 5) to “have a thickness of 20mm or more”. Each of the laminated bodies, or second laminated bodies in the independent claims has a density “in a range from 0.8 to 1.4 g/cm³” and a “thickness less than 20mm”. The above mentioned features of the claimed present invention are suitable to the wood elements for musical instrument for the following reasons not taught or suggested by the prior art of record.

In the manufacture of musical instruments, in particular, woodwind instruments such as clarinets, oboes, piccolos, and recorder, it is necessary for the wood elements to have thickness of 20 mm or more. (In the case of clarinets, the thickness of 40mm or more is necessary) because a tube of the woodwind instrument is carved from the wood element. When manufacturing wood elements having the thickness of 20mm or more by pressing a plurality of wooden plate units, it is difficult to apply the pressure evenly over the entire laminated body.

This makes it difficult to obtain wood elements having a uniform density and this makes defects such as cracks tend to occur because strong pressure is unevenly applied. To solve this problem, according to applicants present invention, laminated bodies are first formed to have a density in a range from 0.8 to 1.4 g/cm³ and a thickness less than 20 mm and, then, at least two of the laminated bodies are bonded together to form the wood elements having a desired thickness of 20mm or more. The wood elements thus obtained have a substantially uniform density and are suitable to use for musical instruments. This feature of the presently claimed invention is described in the present specification on at least page 11, lines 6-16).

The Office Action has completely ignored the specific density limitation as explicitly recited in all of the independent claims. For this reason alone, the rejections of all the claims should be withdrawn.

EP 655 and Coe even when combined with Yamada do not remedy the deficiencies discussed above. Owing to the structural feature of the claimed present invention, unexpected results can be obtained in which it is possible to easily manufacture wood elements for musical instruments having the suitable density and EL /GTL value to cause the wood elements to have excellent vibration characteristics analogous to those of rare natural woods (such as granadilla). Withdrawal of the rejection of claims 1, 5, and 12 on the basis of Yamada, EP 655 and Coe is respectfully requested.

Claims 2-4, 6-9, and 13 depend from the independent claims 1, 5, and 12 and include all of the limitations found therein. Claims 2-4, 6-9, and 13 include further limitations which, in combination with the limitations of claims 1, 5, and 12 are neither disclosed nor suggested in the art of record. Therefore, claims 2-4, 6-9, and 13 are allowable for at least the reasons discussed above.

The Office Action on page 5 rejects claims 10-11 but expressly admits that Yamada in view of Ciani does not teach the "dyeing of the wooden plates." Independent claim 10 recites "[w]ood elements for musical instruments, comprising at least two laminated, bodies bonded together to have a thickness of 20mm or more, each of the laminated bodies including laminated, dyed wooden plate units whose fiber directions are uniformly aligned, and having a thickness of 20 mm or less, and a density of 0.8 to 1.4 g/cm³." The thickness and density limitation of claim 10 are also recited in claim 1 and the arguments made above in connection with claim 1 are also applicable for claim 10. Therefore the rejection against claim 10 should be withdrawn. Claim 11 depends from claim 10 and includes all the limitations of claim 10 and therefore is allowable for at least the reasons discussed above.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Application No. 10/624,486
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Reply to Office Action of June 25, 2007

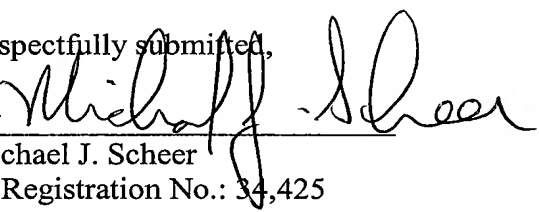
Docket No.: X2007.0134/0US0

No fee is believed to be due for this Amendment. Should any fees be required, please charge such fees to Deposit Account No. 50-2215.

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